N26 Stack Integration Support

Feature Summary and Revision History

Summary Data

Table 1: Summary Data

Applicable Product(s) or Functional Area	AMF
Applicable Platform(s)	SMI
Feature Default Setting	Enabled - Always-on
Related Documentation	Not Applicable

Revision History

Table 2: Revision History

Revision Details	Release
First introduced.	2020.04

Feature Description

This feature supports the following:

- UDP Proxy and GTPC Endpoint

- EBI Allocation and Reallocation Support

UDP Proxy and GTPC Endpoint

Feature Description

AMF supports interworking procedures to work with EPS. The procedures use the GTP-C based N26 interface between AMF and MME. Interworking procedures with N26 provides IP address continuity on inter-system mobility to UEs that support 5GC NAS and EPS NAS and operate in single registration mode. Interworking procedures using the N26 interface enables the exchange of MM and SM states between the source and target network.

To support N26 interface, AMF needs to support UDP proxy and GTPC Endpoint.

- **UDP Proxy:** Single instance of UDP proxy running on the system. UPD proxy receives/sends the UDP packets to/from GTPC Endpoint.
- **GTPC Endpoint:** The GTPC Endpoint (GTPC EP) POD handles the GTPC messages between AMF and MME. In order to enable interworking between EPC and the NG core, N26 interface is used as an inter-CN interface between the MME and 5GS AMF.

EBI Allocation and Reallocation Support

Feature Description

AMF supports assigning EBI service for the requests received from NF consumer service. Also, partial fulfillment of requests is supported. When no resources are available on AMF, the request are rejected by AMF

Standard Compliance

- 3GPP TS 23.502 version 15.5.1 Release 15, Section 4.11.1.4
- 3GPP TS 29.518 version 15.4.0 Release 15, Sections 5.2.2.6, 6.1.3.2.4.3

Limitations

In this release, priority-based eviction of already assigned EBI is not supported.

How it Works

This section describes how this feature works.

Call Flows

This section describes the key call flow of EBI Allocation and Reallocation Support feature.

The EBIAssignment service operation is used during the following procedures (see 3GPP TS 23.502 [3], clause 4.11.1.4):

- UE requested PDU Session Establishment including Request Types **Initial Request** and **Existing PDU Session** (Non-roaming and Roaming with Local Breakout (see 3GPP TS 23.502 [3], Section 4.3.2.2.1).
- UE requested PDU Session Establishment including Request Types **Initial Request** and **Existing PDU Session** (Home-routed Roaming (see 3GPP TS 23.502 [3], Section 4.3.2.2.2).
- UE or network requested PDU Session Modification (non-roaming and roaming with local breakout) (see 3GPP TS 23.502 [3], Section 4.3.3.2).
- UE or network requested PDU Session Modification (home-routed roaming) (see 3GPP TS 23.502 [3], Section 4.3.3.3).
- UE Triggered Service Request (see 3GPP TS 23.502 [3], Section 4.2.3.2) to move PDU Session(s) from untrusted non-3GPP access to 3GPP access.
- Network requested PDU Session Modification, when the SMF needs to release the assigned EBI from a QoS flow (see 3GPP TS 23.502 [3], Section 4.11.1.4.3).

The EBI Assignment service operation is sent by the SMF towards the AMF, to request the AMF to allocate EPS bearer ID(s) towards EPS bearer(s) mapped from QoS flow(s) for an existing PDU Session for a given UE. EBI allocation applies only to PDU Session(s) via 3GPP access supporting EPS interworking with N26. EBI allocation does not apply to PDU Session(s) via 3GPP access supporting EPS interworking without N26 or PDU Session(s) via non-3GPP access supporting EPS interworking.

SMF performs EBI Assignment service operation by invoking **assign-ebi** custom operation on the **individual ueContext** resource.

The following call flow shows the messaging that happens in the network. The components of the AMF are not specified here.

Figure 1: EBI Assignment Call Flow

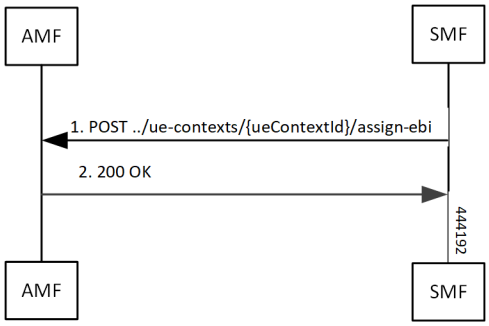

Table 3: EBI Assignment Call Flow Description

Step	Description
1	SMF sends Assign-ebi request to AMF.
2	AMF sends 200 *OK* message to AMF